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# WHAT IS MEDICINE?

ANNUAL ADDRESS

DELIVERED BEFORE THE

American Academy of Medicine,

AT NEW YORK, OCTOBER 28TH 1885.

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MEDICAL DIRECTOR U. S. NAVY,  
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PHILADELPHIA:  
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FELLOWS OF THE ACADEMY:—

A Presidential address is usually gratulatory to the body which has honored the speaker by selecting him to preside over it. In medical conclaves it is also customarily historical. The shades of Hippocrates and Celsus, of Galen and Avicenna, are paraded in their ancient garbs, and twenty centuries are gone over in as many minutes, preluding a summary of the novelties and notorieties of the preceding year, which, in these days of medical periodicals, is an easier matter than it used to be. The special ology which each Association flies as its distinguishing pendant determines the objects legitimately within its purview, and the President, for the time, is monarch of the medical, surgical, gynecological, ophthalmological, rhinological, dermatological or whatever other realm, for the two, three, or, at most, four days he may have to rule, without question of his authority, provided he does not encroach upon the domain of any fellow sovereign.

But the American Academy of Medicine would have little reason for being at all, and I no occasion for any public utterance, if its place were to be sought among the pathological and clinical, the biological and sanitary associations of a national character, which are numerous enough to include the devotees of each particular department of our great science. It is, however, concerned with none of these parts of the body politic of Medicine, but with the illimitable spirit which animates them all. It trenches on no other's ground, and hence antagonizes none, but, permeating all, seeks to cement them into a compact unity by inculcating principles that should govern all.

Here, then, I should find my text, and on this Ninth Annual Meeting it would have been particularly gratifying if I could consistently have made it an occasion of jubilee. Have we any especial reason to be jubilant? We number 291 Fellows, or less than three in every thousand graduates in Medicine in the United States.

Is that much of a harvest after nine years' tilling? On the 6th of September, 1876, in the city of Philadelphia, eight men resolved to make an effort to give practical shape to the growing conviction among the members of the profession that something should be done to arrest the trade-leveling influences working its degradation, and they planted the seed of which this Academy is the growth. Then, as now, they claimed no special personal merit, nor essayed any other rôle than that of honest husbandmen, who, with no thought of profit, and without hope of reward, assumed the charge of a thrifty plant, whose natural vitality would soon render any tending unnecessary. Its growth has been slow. Its second year added twenty-nine to the original eight, and the subsequent annual accessions have enlarged its roll to 82 in 1878, 126 in 1879, 135 in 1880, 174 in 1881, 224 in 1882, 234 in 1883 and 279 in 1884. There have been twenty-four elected at this meeting and twelve have gone into another life, leaving their names and memories with us as imperishable testimony of their fraternity and fellowship in the cause we are advocating.

Is this tardy development such a proof of feeble vitality that the plant is not fit to survive, and shall they who have sought to nurture it, therefore, abandon the attempt to make it live, or is the fact that it has taken root at all, in a rocky soil, under unfavorable conditions, really evidence that the germinating principle is indestructible, and that it must ultimately thrive?

Let us see why this bantling has not made greater progress, and why it has no reason to expect it.

First: Its very fundamental condition of membership has made it unpopular. Its fellowships have been restricted to those members of the profession who, after a systematic course of study, preparatory and collegiate, have received the degrees of Bachelor of Arts, Master of Arts, or equivalent certificates from foreign institutions which do not confer such degrees. A sweeping exclusion of this sort, naturally, arrays in opposition all the excluded, who need no other pretext for antagonism, and who ridicule the averment that the Academy has been instituted with no design of personal prominence for its Fellows, but solely as a medium through which men may coöperate who would make Medicine the paragon effort of human intelligence.

The objects the Academy aims to accomplish, as set forth in its constitution, are—



*First*, the closer relationship of the alumni of classical, scientific and medical schools ;

*Second*, the encouragement of young men to pursue regular courses of study in classical and scientific institutions before entering upon the study of Medicine ; and

*Third*, incidentally, the extension of the domain of Medicine and the elevation of the profession, that human suffering may be relieved and disease prevented.

Now, of these the first is only the means to the second, which is the cardinal purpose of the Academy—the higher education of the medical men who are to succeed us—that the profession may be elevated and the bounds of this grand science extended to the utmost possibilities of human knowledge.

Nevertheless, the Fellows of the Academy, who are enrolled for this end, are contemptuously derided by both pharisee and sadducee, as arrogating a personal superiority to which they have no valid claim, and accused of inconsistency in objecting to one degree as presumptive evidence of professional abilities and acquirements, and accepting another merely literal criterion of fitness. To this no other rejoinder is necessary than the reiterated declaration that no Fellow of this Academy has ever contended that there are not able, gifted and illustrious members of the profession who have achieved distinction without any of the literary, classical or scientific preliminaries on which it insists, nor, further, that there are not as many others who have fulfilled all these preliminaries without their formal consummation by graduation, through sickness, change of residence, or other involuntary cause. The Academy is not an association of mutual admirers, for its fundamental requirement that its Fellows shall be men who have had special advantages of education and culture, gives less prominence to personal merit, and consequently furnishes less pretence for self-laudation. The man who has risen to eminence through his own intelligence, industry and ambition is the one who challenges admiration and receives it ungrudgingly from this Academy ; but there are not many among the multitude who can be expected to develop into Hunters and Astley Coopers in spite of every lack. That the mediocre intellects of this multitude may be enabled to reach the higher plane of true science, it seeks to equip them thoroughly for the ascent to the broad, bright highway leading thither. Would John Hunter have been less distinguished—might he not have accomplished more—had

he been spared years of toilsome self-instruction and of groping and stumbling in the dark?

The ineligibility of such a number of worthy and reputable members of the profession, who sympathize with its objects, and are desirous of coöperating in their accomplishment, has been a subject of serious consideration by the Academy, and various propositions have been entertained for avoiding the appearance of purposive exclusivism. From mere policy it is desirable to secure as allies our many learned and eminent colleagues in the profession who have never received literary degrees in course, but who recognize as keenly as any of us the urgent need for reform in medical education. It was hoped that this might have been accomplished by the provision for Honorary members, selected from men in the medical profession who have made important contributions to medical science, limited in number to five for every hundred Fellows, and having no right to vote or hold office—restrictions which precluded active participation and association. It was, consequently, proposed at our last meeting to create a class of Associates, to consist of graduates in Medicine who, without degrees in arts obtained in course, have distinguished themselves in Medicine and collateral sciences. But if the right to vote and hold office be withheld, it is not evident wherein there is any greater liberality over the provision for Honorary membership, except in the non-limitation in number. Double lists of Fellows and Associates, though accorded equal privileges of voting and holding office, or the admission to Fellowship of distinguished graduates in Medicine without literary degrees up to the date of organization of the Academy, are as open to objection as pre-existing provisions. We desire the coöperation of every educated man interested in the objects of the Academy, and while there is some justice in maintaining that this interest should not be gauged by mere personal privilege, and that if the Academy is to become prominent and influential, Honorary membership should be esteemed above Fellowship, still, I am of opinion that the time has come when every limitation to Fellowship should be removed, except the solitary requirement that the candidate shall be in fact, as in title, learned in Medicine and in all else that that implies. I would welcome every educated, upright, honorable man, whence-soever and howsoever he may have obtained his education and derived his principles, while I would make it impossible for any one unfit or unworthy to sit in Fellowship among us, though he come

with an armful of diplomas, have subscribed to the most inflexible of codes, and no matter what faculty, society or institution he may be delegated to represent. If true to the principles, and discriminating in the bestowal of the honors of the Academy, in time, whether long or short, a place on its roll will be eagerly sought, as evidence of professional merit and repute. To protect against improper elections through hasty and insufficient inquiry into the qualifications of candidates, I would require their nominations to be accompanied by the fullest record evidence, and to be made long enough in advance—three, six, nine months or a year—to enable the Council to determine each man's fitness beyond question.

Incidentally here, as my predecessors have already done, I may again confute the charge of inconsistency in ascribing to the degrees of A.B. and A.M. a value not accorded to that of M.D., by repeating that there is no parallel in the reckless facility with which men are labeled *Medicine Doctor* to be found in any literary, scientific or classical school in this country. Something, at least, must have been absorbed by the plastic youth, however stupid or indolent, before he can acquire a baccalaureate; but the uneducated dolts who sit through the courses of lectures of a medical college need not have one fact of scientific truth go through the pachyderm of ignorance in which they are encased, and still be authorized to carry away with them the certificate, blazoned on parchment, that they are *learned in Medicine*. There is no need of mincing words or of fearing to use plain Anglo-Saxon terms. The Latinized language of the diploma in no degree qualifies the falsity of the declaration that "*Omnia studia et exercitia ad gradum Doctoris in Arte Medica spectantia ritè et legitime peregrisse;*" nor does the classic Cæcilius, Jacobus or Gulielmus prefixed to world-wide known surnames lessen the responsibility of each signer for the graven untruth to which he subscribes. The paper is as fraudulent as the check drawn when there are no funds in bank, as meretricious as the quack's advertisement of the panacea that is to cure every ill, not one whit less anti-ethical than the homœopath's proclamation, in just as good Latin, that *similia similibus curantur*.

And here we come, face to face, upon a second reason why this Academy does not meet with more pronounced sympathy and support—in its necessarily hostile attitude to institutions and individuals who defy the principles of its constitution. The colleges,



which accept any matriculant who can pay for his tickets, as well as many who cannot, must undergo a very thorough change of heart before they can subscribe to a creed which will materially diminish their revenues; yet until this conversion is brought about, there can be no harmony between them and us. Neither trustees, faculties, nor graduates of these doctor-mills, can be expected to have good words to say of those who would so thin their grist that perchance they might have to stop running; nor can good be said, in return, of establishments which are willing to prostitute the sublimest of human occupations for the sake of the money to be made by the sacrifice of her honor and the sale of her favors.

A third obstacle the Academy encounters in the lukewarmness of quasi-friends, some damning it with faint praise, others exuberant in approving words in private while chary of any public act of endorsement. I have a note from a very highly esteemed friend connected with a medical journal, to this effect: "I have written an editorial on the Academy. Don't think I mean anything personal to anybody when you read it, but you know the trade aspect, while distasteful to me, must be upheld in the *Medico-Chirurgical Herald*. It is by that we live"—which is the honest expression of the fact, but what a lamentable fact! I do not quote this note in any unfriendly spirit. It is undoubtedly true, that if this editor should earnestly and actively denounce the shoddy products of the medical factories, he would have fewer subscribers; so, taking the soil as it is, he sows good seed, in the hope that some of it may take root; but while the editorial columns of our medical press are pre-eminently high-toned, publishers and proprietors can have only the money return in view when they admit, under the same cover, advertisements of bogus medical concerns, drug manufactories and proprietary clap-traps, which are at variance with the professional ethics, pure and undefiled, which, if we would be orthodox, we must all devoutly revere. The fact that so many regularly graduated physicians have embarked in the patent-medicine business and are stockholders in companies, does not lessen the responsibility for contributing to the growth of this enormity. The last census shows that the 563 patent-medicine mills in this country have a capital of ten million dollars, which returns an annual product of fifteen million. When half a dozen men in some out-of-the-way place, or in some city already possessing several well-conducted schools, constitute themselves professors, with but limited means for giving

instruction, and bid for pupils by lowering fees and making graduation easy, why should their business venture be advertised in the reputable journal which is the exponent of the best thought of the profession? I do not want to be misunderstood as assailing the medical press. The most earnest Fellows in this Academy are the medical editors, and through them, rather than to the schools, are we to look for reform in medical education. The *New York Medical Record* has just signalized itself by commending, editorially, the good sense and self-denial shown in the resolution of the Florida Medical Association, "that it does not consist with the promotion of medical education and the best interests of the profession that any medical college should be instituted or encouraged in Florida at this time, and that the members of this Association will use their influence toward directing students of Medicine to some of the many colleges of established reputation and reliability beyond the limits of this State." These are most encouraging signs of the times, and serve to offset the fact that 40 of the 89 regular medical schools in the United States have been opened within fifteen years and 28 within the last five. I do not believe there is any reputable editor who is not in sympathy with the objects of this Academy, and if there were nothing admitted into the journals extraneous from their own utterances, the friends of medical education could ask but little more from them in the way of example or countenance; but I protest against the license to any numskull, by reason of the length of his subscription and for the sake of the advertisement and indirect endorsement, to put into print his own ungrammatical twaddle, and palm off, under respectable cover, his downright inventions as actual occurrences in his experience. I have lately come across a number of articles from a contributory M.D.—this brand of professional regularity and acquirement being a conspicuous part of his signature—whom I had discharged from the position of apothecary because he would confound grams with grains, did not recognize muriatic acid when labeled acidum hydrochloricum, and tried to remedy imperfect neutralization of spiritus mindereri by jamming down the cork, and who does not hesitate to dilate upon the symptoms, diagnosis, prognosis and treatment of the gravest maladies, and to parade as the fruits of his own experience the routine hospital formulæ with which he necessarily became familiar as their indifferent compounder, and of whose actions he knew as little as of the signs of the diseases he professed to describe



and had imperfectly transcribed from the authorities in the library to which he had access. No educated physician will be deceived by the borrowed skin; but how is the fledgeling of the school which hatches its brood of a hundred or two at every annual setting to know that under the prominent M.D. are asses' ears?

Perhaps it may be said that the journals reflect, rather than create, sentiment, and it may be well for us to pause in our condemnation and ask ourselves the question, What is Medicine?

If we look to this Academy for the answer, it will be limned clearly enough as the most profound and ennobling study which can engage the intellect of man. But the uplifted eye must be cast down to see it as do the masses. In their view, Medicine is that which will cure disease. It is something in a box or bottle, which is prescribed by a man or, in late years, by a woman, who has learned, chiefly by observation and experience, how to recognize the several diseases which afflict humanity, and acquired a greater or less skill, in popular estimate, in administering the particular remedy appropriate for each. That is all there is of it. The man who scrapes away a corn or pulls out a tooth is only less dignified than the one who lops off a limb—decayed teeth and the toes on which corns flourish having a relatively less importance than the limb which is cut off. Whether it be a belly-ache or a fever to be treated, a poultice to be applied or a prescription written, he who does it is "the doctor," and, like other servitors whose offices are required by the disagreeable incidents of humanity, he is tolerated as a necessity. The sham aristocrat enjoying social prominence through accident looks down upon him, however profound his learning, and relegates him to the mercenary stratum of society. The plutocrat hires him as he does his cook and coachman. In the military and naval services—the profession of arms, as it is the fashion to term it, affects to despise him and degrades him below the man whose only functions are to drill other men, fire guns and sail ships. The ministry of the suffering and afflicted is nowhere regarded as only an outcome of the study of the stupendous and sublime mysteries of existence. In the national councils, in military and naval organizations, in civic administrations, who thinks of giving a first place to the physician? yet his are the mental attainments which fit him best for counsel in all that relates to the welfare and progress of the human race.

Science is, literally, knowledge, and the science of Medicine in-

volves the knowledge of everything that relates, however remotely, to the existence of man—his place in nature, his origin, growth and development, preservation and continuance. The prevention, alleviation or cure of those abnormal conditions which tend to his destruction are but one chapter in the volume—a chapter which, coming near the end, cannot be read understandingly without the thorough comprehension and diligent study of all that precede. The mechanic who oils and patches and tends the running of the engine is as far from being a skilled engineer, versed in the higher mathematics of which that engine is the final expression, as is he from being a physician—the profound student of *εἶδη*, who has read only a few random pages in the book of life, with scarcely a snatterer's knowledge of the language in which it is written. Of those who would ridicule this lofty claim for the man who elects to become a doctor among the world's workers, instead of preacher, lawyer, broker, trader, soldier or sailor, let it be asked, how can the abnormal function or morbid structure, of which disease is the utterance, be understood without a thorough acquaintance with normal functions and healthy structures? The Natural History of man, to which this study of structure and action, normal and abnormal, is contributory, is closely interwoven with every other branch of Natural History, for man is so affected and influenced by his environments that he cannot be considered independently of them. He stands upon one round, perhaps near the very top, in the scheme of created nature, and he can only be reached by toilsome climbing from the bottom.

There are no abrupt lines of demarcation sharply limiting the study of Medicine. The further we trace the broad stream of medical knowledge to its sources, the more numerous and widely separated will be found those many spring-fed rivulets which meet to form the wide, deep river that ultimately loses itself in the fathomless sea.

I am not assuming universal knowledge to be the sole prerogative of the physician. It is the common ground trodden by all educated men—advocate and divine, author and artist, merchant and man of leisure. Every educated man is not an embryo physician, but no one can be a physician who is not first an educated man. This has been my purport—to show that medicine is so far reaching in its sources, so catenated with every other branch of knowledge, that he who would begin its study must, first of all, have drank deep of

the well-springs of human knowledge. Nor does medics, if it may be so termed, stand upon a foundation of mere physics. The realm of metaphysics must be explored by the accomplished physician if he would hold his place among the world's thinkers. I am only seeking to demonstrate that Medicine is a science of such proportions that only a well-educated man can master it. This ought to be self-evident and argument unnecessary; but is the lofty view entertained of Medicine by this Academy that of the profession at large? What are the facts?

First, let us inquire how the profession is recruited. Here and there, the son of a man already eminent treads in his father's footsteps and worthily becomes his successor. Carefully educated, living in a medical atmosphere, like the artisan who falls heir to generations of technical skill as the foundation for splendid achievements in the mechanic arts, he begins his career in a world of advanced thought, and never knows a lower plane. A few others, without these advantages, but impelled by ambition, athirst for knowledge, industrious and indomitable, no less worthily don the doctor's gown.

Ordinarily, however, the youth becomes a doctor, as he marries, from whim; and many, no longer young, because having failed in other occupations they hope to make money by this, knowing nothing of its requirements and responsibilities, without aptitude, ignorant, illiterate, influenced in choice, possibly by indolence, which makes other callings distasteful. The country gawk, who has learned to write rudely and spell phonetically at a few quarters' night school during the winter, when country lasses have divided his time with his primitive school books; the city lad, who tires of the confinement at the desk or counter, which has been his lot since he left the grammar school, whose compulsory lessons he evaded all he could—determine to learn doctoring. A friendly preceptor, who, for a nominal fee or without any, allows the run of the old text-books which have survived his own college days, and of which the pictures are more conned than the unintelligible text, fulfills the requisition of office instruction till the beginning of the first of the two full courses of lectures which are to make him a member in good standing and peer in right and dignity of a learned profession. "I don't like this kind of work; I'm going to be a doctor;" said a young mechanic painting my house; "but I'm not nineteen yet, and it took A. B. (mentioning a friend) only two years to get

through, so I'll not begin until next fall," when the course commenced at the school he had selected—selected because his friend had gone through with so little trouble. There he doubtless sat, listening one hour to a lecture in anatomy, every other word of which was veritable Latin or Greek to him, catching occasionally something about blood, which he noted down as *blud*, or water, to which he gave two *U's*; thence abruptly changing to a discourse on practice, perhaps a learned exhibit of points of differential diagnosis; the third hour, bewildered by the chemistry, he soon learned to shirk; followed by a lecture on surgery, the very illustrations of which impressed on him perverted images never to be effaced; and winding up with the botanical history, physiological effects, therapeutic uses and pharmaceutic preparations of some drug whose name he cannot spell. Perhaps he was the very man who, two years after his graduation, wrote about the *bottoms of Jolop* in the course of his examination for admission into one of the national services.

I have only arbitrarily grouped a sequence of lectures, but I have beside me a printed programme in the annual announcement for the year 1885-86, of a college, which has a two years' course requiring attendance on all lectures and a graded course of three years, also requiring for the first year attendance on all the lectures, which actually gives the following order of subjects for one day: For the first hour, physiology and microscopic anatomy; for the second, *materia medica*; for the third, theory and practice of medicine, with a clinic interjected; and in the afternoon, surgery, followed by obstetrics. This, bear in mind, the curriculum for a first course student in the year 1885, in the United States of America.

Returning from a summer vacation, not very long since, I met a middle-aged man, who had been employed by me as a piano-tuner, and who did not appear to relish my intimation that I again had similar need for his services. I was scarcely less disconcerted when he informed me that he was attending lectures, and expected to graduate next year—a feat, however, not comparable to that of an English apothecary, who had been employed by me at Nagasaki, had followed me to the United States, and speedily returned with an M.D., in orthodox Latin, on real parchment, with seal, blue ribbon, and tin case—all complete. That was fifteen years ago: perhaps to-day it would not be possible; but is the change more than super-



ficial? The apothecary had a stock of names and appearances and a hazy idea of the uses of a lot of drugs, while the painter and piano-tuner could derive no aid from either their tints or their tones in mastering even the mere terminology of *Materia Medica* alone.

Dr. Rauch's report shows that of the 89 regular medical colleges in good standing on the first of this year, in the United States, only 41, or less than fifty per centum, up to two years ago, announced that satisfactory evidence of preliminary education would be required of matriculants: to-day there are 85, but the character and extent of the preliminary education is significantly left undefined in many of them, or it is well understood that the college authorities, who are to be the judges, are easily satisfied, and the fact is, as one college frankly announces, that students "are eligible for the attendance of lectures by payment of the matriculation and lecture fees." In some, provision is made that the diploma may not be dishonored by non-recognition in foreign countries, by establishing a special examination for graduates going abroad, the omission of which here is a sorry confirmation of its need; for the records of the several National and State Boards of Examiners are furnishing abundant daily evidences of the grossest ignorance among graduates of unassailable regularity.

I have a letter, dated October 12th, from a member of a Board, stating, that a doctor under examination had given these written evidences of illiteracy: *bowells, totaly, fever, marcurial, intestins, contense, remadies, anylitic, therepeutic, obsteletrics, colume of mercury, cours at Belevieu Hospital, perhapse, preperations, assend and rari-facient*; and another these: *miner surgery, geometra, astronemy, arethmitic, cyclopeda, pharmacetic, admition, permanately, and to-geather*; that another could not tell in what language Milton wrote *Paradise Lost*; that a fourth said that the diameter of the earth was 92,000 miles, he did not know anything about the *Georgium Sidus* and described the Field of the Cloth of Gold as some kind of tapestry; while a fifth wanted to know what studies he should *persece* to qualify himself for re-examination. All these, mark you, *viri probi*, to whom *singula jura, honores et privilegia ad illum gradum Doctoris inter nos aut alibi gentium pertinentia* have been given and conceded, *sincero corde*, within five years. Is it possible that the man who, in the quiet and solitude of the examination-room, after graduation, deliberately writes this: "An alterative acts like food on building



up system, and are favored in their action by stomachic or anything which arouses the system to action," or who, in this era of common schools, spells *gravitation*, *femeral*, *superating*, *corpusels*, *volumn*, *carbinates*, and says *was began*, could have comprehended the teachings of the distinguished men who, in choice diction and graceful style, sought to interpret the profound and abstruse facts and generalizations which pertain to this greatest of sciences?

But will you exclude from the lecture-room and amphitheatre the farmer's son, the city clerk, the government employé, who have not had the opportunity to receive this early education? Why not, when, except in rare instances, they can only become shallow sciolists, dangerous to society because of their unconsciousness of their deficiencies? Why should Medicine be cheapened to every purchaser? Why should the college debase its teachings to their limited understanding?

On this point the editor-in-chief of the *Journal of the American Medical Association* recently penned an article that is worthy of him and of his office as mouthpiece of the National Association. "We cannot see," he says, "that the income of the student, either as regards time or money, has any relation whatever with the amount of instruction which he should receive before human lives are placed in his hands; we are perfectly well aware that some schools seem to grade their course on the principle that the applicant should receive his degree, whether he has the proper amount of time, money or brains at his disposal or not. Any principle that proposes to adjust the teaching of the schools to the student, instead of requiring that the student should be adjusted to the schools and to the necessities of higher education, is fallacious in the beginning and productive of evil in the end."

In some States the censorial functions of licentiate Boards of Examiners are performed by the State Board of Health, and most appropriately; for the public health is jeopardized as much by endemic medical incompetence as by epidemic disease. Here a beginning has been made, by not accepting, as evidence of qualification to practice, diplomas of schools which do not require the preliminary education of matriculants. When this shall become universal, the boobies and idlers, who are unfit for trade and business callings, will as soon think of attempting to enter a reputable medical college—and there should be no other—as of applying for a diplomatic mission or the control of a great corporation. A daily

paper pertinently asks: "Are law and medicine learned professions? If so, what are the tests (besides the payment of a fee) applied for admission to our law and medical colleges? Are candidates even required to write a legible hand, or to spell correctly, or to construct a sentence properly? Are not the lives and legal business interests of our families too often dependent upon ignoramuses, who, in large numbers, are invited or permitted to rush into the *learned* professions?" The sneer cannot be resented.

Those of you who have had opportunities of reading the so-called *theses* presented by candidates for graduation can corroborate the statement of our Fellow, Dr. Roberts, at a meeting of the Philadelphia County Medical Society, about a year ago: "The Paris theses are printed, and often referred to as sources of medical information. A collection of all the theses presented to the American medical colleges during the last five years would be more entertaining than that book of books, 'English as She is Spoke,' and no Mark Twain's preface would be needed."

A graded course of three terms, or even four, as now exacted by thirty-four colleges and recommended, but not exacted, by thirty-six, will not remedy the defects of early education. High standards for graduation will not supplant lack of general information. Medicine is a science that cannot be mastered by an ignoramus, and, therefore, an injunction should be placed upon any such making the attempt. No college has a right to admit, even to its lowest classes, men who cannot comprehend the language of their instructors, and no man can comprehend this who has not received a thorough academic education.

Yet this is frequently done to-day. Indeed, one of the chairs in every medical school owes its existence to the insufficient preliminary education of matriculants. Only the utter ignorance of elementary chemical principles of the men who study Medicine made Chemistry one of the seven professorships. Chemistry is, of course, a chief foundation stone on which Medical Science is erected, but so are physics and zoölogy and botany. Its principles are interwoven in every part of the fabric, but so are all other natural laws and physical phenomena. Recognizing the incongruity, some schools designate the chair Medical Chemistry, or Chemistry and Toxicology, or Medical, Pharmaceutic and Toxicological Chemistry, and link on Climatology or Hygiene or Jurisprudence, to give additional ballast; but, for all that, the customary course embraces

the elementary facts of chemistry and couples with them the a-b-c's of Natural Philosophy. Rudimental as is the teaching, I have examined graduates who did not know the mechanism of a barometer, and could not tell how the mercury<sup>\*</sup> got into a thermometer, nor what it did after it got there; who placed the boiling-point of Fahrenheit at about 300°, that of the Centigrade scale a little higher, and of Reaumur not so high; and who had no more idea of the atomic theory and chemical equivalence than of the nebular hypothesis or the reason why the Magellan clouds do not blow away.

Comparative anatomy was abolished from medical curricula because it led into deep water; let chemistry be wiped out because, like grammar and rhetoric, and physical geography and mathematics, and physics and botany and zoölogy, it belongs to the school-boy days of the academy and high school.

What is Medicine—what only can it be to the ignorant, untaught numbers who are mustered into the ranks of the profession at the rate of four thousand a year? Concede to such as these the highest native talent, what opportunity is there in the two, or at most three years, they devote to it, to acquire the preliminary instruction which will enable them to intelligently undertake the study of the first bone, comprehend the reactions of chemical elements, or read the botanical history of a single drug? yet these are the merest technics of the science. To these men, Medicine can have no other aspect than that of a trade. They entered upon it as a money-making vocation; it was taught them as a source of pecuniary profit; they practice it for the fees they get. The blame is not theirs. What other Medicine have they ever known? The fee-bill hangs in their office as the measure of value of their jobs, and there they sit, biding their time till some one shall come to hire them to write a prescription, mend a broken bone, or bring a baby into the world.

Manifestly, then, Medicine is not the same thing to all men, even medical men, nor is there any common creed which all profess. They who stand upon the plane of higher Medicine will never consent to degrade it to any lower level. Equalization can only be obtained by exaltation. This elevation of the profession is one of the objects this Academy aims to accomplish, and it can only be accomplished by the radical reform of the system of medical education, and this can only be done through the efforts of medical men themselves. So long as credulity is an element of human

nature, the sciolist and empiric will find favor and abundant patronage and support; and so long as shrewd pretenders know how to play upon this credulity, the trade of charlatanry will be profitable; but shall Medicine borrow its guise for its pecuniary advantages? Yet it does this when it sanctions the annual outpourings of those who are not what they profess to be. Very properly, fellowship is refused to the men who make a trademark of the peculiar dogma they believe, or affect to believe. With equal justice, it should be withheld from the illiterate, ignorant and incompetent, whose pretensions are just as fraudulent and dishonorable. If all such can be excluded from the army and navy, why is it not possible for every medical society—State, county and city—to close its doors upon them? I am not of those who would let down any of the barriers which guard the approach to the temple of the true faith. I would put up more, and would see well that the wolves in sheep's clothing, as well as those who do not disguise themselves, are kept from the fold. We must do this, not only for the honor and dignity of our noble profession, but for the sake of the poor victims who may fall into their clutches. Here and there a druggist kills by carelessness, and the occurrence is widely echoed in the newspapers; but the files of every retail apothecary furnish examples of illegible writing, careless composition and ignorance of chemical incompatibility and incongruity of mixture in physicians' prescriptions discovered and quietly rectified. For one life sacrificed by the drug clerk, hundreds are saved by him or his employer, who recognize toxic doses or improper combinations. Which of you would care to swallow "a dessertspoonful 3 times daily after meals," of a prescription containing "Hydrarg chlor Corr ʒiv" in "Aq Cinnamon ʒxij Ext Sarsaparilla fld ʒiij;" or take a "teaspoonful at night to promote sleep," of this incompatible mixture—

|   |                      |      |
|---|----------------------|------|
| R | Chloral Hydrate..... | ʒij  |
|   | Potass Bromide.....  | ʒiv  |
|   | Bromidia.....        | ʒj   |
|   | Tr Valerian.....     | ʒj   |
|   | Tr Cincho Comp.....  | ʒiss |

Mft:

or be willing "to allay headache from coughing" by tablespoonful doses of this—



|                           |                         |
|---------------------------|-------------------------|
| R Solid Ext Cannabis      |                         |
| Indicus.....              | $\overline{3}$ i        |
| { Syr Pruni Virg } .....  | $\overline{3}$ j        |
| { Syr Wild Cherry } ..... | $\overline{3}$ j        |
| Tr Opii.....              | $\overline{3}$ iij      |
| Tr Opii Comp.....         | $\overline{3}$ i        |
| Aquæ.....                 | $\overline{3}$ iij M ft |

each dose containing ten grains of extract deliberately specified as the solid. The abbreviations, absence of punctuation, contempt of grammatical construction and mixture of Latin and English, are just as they appear on the files from which they have been copied, and are the work of men whose sway is absolute over the lives of their fellow-men. It was a very regular M. D. who prescribed "Cocaine Murate  $\overline{5}$  ij Aquæ  $\overline{5}$  x to be applied to the throat," and another just as orthodox, who ordered

|                      |                   |
|----------------------|-------------------|
| Tr Cannabis Ind..... | $\overline{3}$ ss |
| Tr Nux Vom.....      | $\overline{3}$ ss |
| Aq.....              | $\overline{3}$ i  |

to be given in half-teaspoonful doses three times a day, in spite of the incompatibility. I need not multiply examples, of which I have an abundant repertory, many of them illustrating what I have said respecting the necessity for preliminary chemical instruction, as when potassium permanganate and glycerin, and potassium chlorate and tannin are directed to be triturated together, and sodium bicarbonate is bottled up with hydrochloric acid.

The debasement of medical education to the capacity of the ordinary purchaser of a diploma—for the term student is hardly a fitting one—will eventually cause the profession to deserve the reproach its deriders bestow upon it. The ignoramus is unconscious of his ignorance, and parades it to the ridicule of the educated members of other professions. Increase the number of such, and, inevitably, they will give a false color to medical thought. We reap what we sow. The life of the practicing physician is, ordinarily, an unenviable one. He is subject to the caprices and vagaries of patients; he has to cater to their whims and prejudices, and dares not be honest and independent. Why? Because the public have gauged the profession by the men with whom they most often come in contact. The speed of the fleet is that of its slowest vessel. Real gems fall to the value of the imitations in paste with which they



may be set. When M. D. can be flaunted by unlearned and unskilled men, who will attribute to it dignity or importance? There are great men in Medicine—wise men, who never hesitate to say, “I do not know;” but is that the avowal of the typical doctor? Does he not, rather, assert an omniscience in inverse ratio to his knowledge? With an imperfect acquaintance with the intimate structure of the body, with a list of diseases, which he regards as so many hostile entities, for each of which he has memorized a corresponding remedy, of whose action he has but a vague idea, serene in his own conceit, he unhesitatingly assumes the responsibility of human lives chance or his own seeking throws in his way, and doses them with no doubt of the potency of his drugs or of his own infallibility in administering them. I am not derogating from the importance of our noble science in ascribing this unbounded faith in drugs and drugging to the unlettered smatterer. The sublime self-confidence with which the uncultured practitioner administers his alteratives and deobstruents can never be his who stops to ask himself just what it is his compounds are to do, how they are to do it, or why he should attempt to do it. It is the master-mind, which has extended its horizon farthest towards the unknown and reached that cloud-land into which human vision cannot penetrate, which stands dismayed at the vastness of the illimitable beyond its ken.

Who of us can tell where life begins or why it ends, or how the marvelous complexity of the body is evolved from a simple tiny cell, how food and air and water transform themselves into that living blood which feeds the organs and develops sensation, power, emotion, thought, or by what mysterious influence the processes of assimilation are perverted and morbid tissues formed and morbid tendencies implanted, to be perpetuated generation after generation? Until the mystery of the first departure from health is made clear, who can claim to know just what is right to restore it? Till these secrets are resolved, all our therapeutics is empirical and fundamental methods of cure are all speculative. We grope in the dark, giving this or that, flattering ourselves that we have accomplished results which may have been coincident or have come about in spite of our interference; nor does it belittle our science to make this admission. He who believes that it has been given to finite minds to read how the Divine Intelligence has set in operation forces that ever tend upward cannot doubt that in this, as in everything else, what is best will ultimately obtain. There is no retro-

*grade in science.* The great fabric of truth is slowly being put together by patient workers, who here and there discover some piece that finds its proper place. If we have not ascertained where disease begins, we have, at least, learned that the follies and vices and ignorance of man have in their wake a multitude of ills; and these we can prevent; and the wise physician is he who, learned in all that pertains to the normal life of the body, aims to protect it from those evil influences which experience has shown him do it harm, though he know not how, and still less, how to undo.

Preventive Medicine has, at last, obtained recognition as the highest aim of the physician's art. I am aware there are dissenters from this view. I was lately shown a letter from a prominent physician, in which he proclaimed himself a therapeutist rather than a hygienist, and said, "the laity believe in us as the givers of drugs," and he deprecated the day when sanitary instruction might be so general that the engineer, the sailor and the civilian might know as well as he how to prevent disease. He mourned Othello's occupation gone with the same wail as the preacher when hell-fire had been eliminated from his stock of staple terrors to evil-doers. For all that, Hygiene, which once had an uncertain tenure as a lectureship, or an adjunct professorship tacked on to Toxicology or Medical Jurisprudence, or eking out some minor specialty, now, in seventy-three of the one hundred and one schools in the United States and Canada, occupies a full professorship, and in importance claims priority of all the other practical chairs; and this can be conceded without minifying our profession or narrowing its field. Rather, it establishes new relations of the physician to the social system. The recognized guardian of health, he should have a highest place in the councils of the nation. If the public revenue, the industrial interests, and the national defense are weighty affairs for cabinet consideration, why not this still more momentous matter of the public health, which underlies them all; for the merchant, farmer, soldier, sailor, subject, citizen and ruler can hope for no success if disease assails them. It is not creditable to the intelligence of the age, that in a Department which controls the internal affairs of the country, among Bureaus of Labor, of Statistics, of Agriculture, and of Education, there is no Bureau of the Public Health.

It is significant evidence of progress in this direction that State Boards of Health have been organized in all but five States in the

Union, and that some of these in the West have been invested with plenary control of both medical and sanitary interests. But Health Boards may be multiplied till they are established in every city, town, village and hamlet, and be valueless without completeness of organization, abundant means and fearless performance of duty. They should be composed of the most intelligent of the medical profession, and the sanitary service they control should be executed solely by medical men, an employment I have, on another occasion, advocated as the legitimate work of medical graduates. Preventive Medicine has more to do than to ward off epidemic visitations of great scourges, or to remove the local causes of health impairment due to neglect of municipal regulations. Probably the most important of all the duties of medical men, is the consideration of the impairment of the health of the growing child by modern educational methods, not only through the defective illumination and ventilation of school houses, but also through the protracted confinement, the exacted night work at home, the injudicious mental strain over new-fangled and complicated systems of teaching grammar and arithmetic, and especially the subjection of natural attitudes and gestures to a rigid mechanical angularity of posture, movement and expression that makes all study an abhorrent torture to every child of any emotional or sympathetic temperament. The prevention of insanity, also, is a problem which only medical men can hope to solve. The alarming increase of the insane population, requiring the multiplication of extensive and expensive asylums, makes it a proper subject of inquiry by those concerned with the public health. The repression of crime, as a result of morbid conditions and of the scarcely less serious consequences of inherited evil tendencies from causes originally controllable, give occasion to profounder thought than when to administer a dose of castor oil, order an enema, or lance a baby's gums.

Nor does Medicine trench on foreign ground when it interests itself with such Sociological questions. Man's moral responsibilities are no concern of the physician. Not the inextinguishable soul, but the soul case, made in the image and likeness of the Creator of man, the marvelous, intricate, beautiful body, which for a time chains that soul to earth, is his charge, from the moment when the homunculus nestles in its mother's womb until the barred casements of the senses are closed to earthly perception and it passes into a new stage of its immortal existence. The science of Medicine is

the science of the mortal man, and there is no nobler office than the physician's to shield this mortal body from every possible harm. Life is a struggle with hostile forces. The microscopic swarms which surround us are at once our friends and foes. If we do not antagonize them, they purify the air we breathe, the water we drink, the soil we tread, and prey upon our natural waste. Only our own folly and ignorance cause them to turn and rend us. It is a futile task to seek for germicides with which to destroy them, when prudence, common sense and sound hygienic precautions will deprive them of their venom and cause them to work for the common good. It is too much to expect that science will ever enable us to inoculate for yellow fever, relapsing fever, phthisis, anthrax, syphilis, cholera, rabies, and what not else, until the body shall be tattooed with cultivated germs and drug stores give place to culture establishments for every microscopic human pest. It would be as wise to try to antagonize the undisturbed foul cellar and water-closet by filling one's house with a chemical atmosphere warranted to kill every known variety of bacterium.

We are prone, in the practical departments of Medicine, to hasty generalization. To-day, micro-pathology holds the sway once enjoyed by the humoral pathology, by neuro-pathology, by Brunonianism, by Broussaisism. We inconsistently denounce the doctrinaires, who affect to believe in the panurgic virtue of similars, and ourselves find cure-alls in quinine, chloral, cocaine, or the latest germicide.

Hence the greater need of impressing upon the tyro in Medicine the fact that there are underlying principles which should never be lost from sight. There used to be a chair of Institutes of Medicine, which was intended to weave the Science of Medicine into a symmetrical whole. Gradually there appeared in its stead a professorship of Principles of Medicine, which, linked to Practice of Medicine, amounted actually to a few lectures in General Pathology, as introductory to the course in Practice, in which typhoid fever, dysentery, phthisis and cholera out-numbered in hours as they out-weighed in attraction. If I would banish chemistry and physics from medical colleges, I would establish a chair of Philosophy of Medicine, to teach the unity of Medicine and to show the connection and relative dependence of the several branches, each of which now stands on its own bottom, and is patronized according to the popularity of the lecturer, or selected by the student as the shortest cut



to the practical acquaintance he seeks to acquire with diseases and their methods of cure. Such a chair might also appropriately include the history of Medicine, its literature, its jurisprudence and its ethics, that ill-defined and scarce understood subject, which, nevertheless, has been the gage of battle of men who did not know the etymology of the word, nor whether it were the plural designation of a number of things.

When, some few years ago, I had the hardihood to plead before the American Medical Association the cause of a higher standard of acquirements for medical men, and argued that medical education was the fundamental fact in medical ethics, and that there could be no disagreement among intelligent, educated men, animated by the lofty principles which should characterize our professional associates, it was assumed that I was inimical to the spirit of the existing code of ethics, which not one in fifty had ever read, and most of these repeated as mechanically as they did their creeds and litanies. Because I ventured to suggest that the narrow interpretation which had been given to its quaint phraseology was unworthy men whose profession called for the broadest humanity, and denounced dogmatic sectarianism, I was held to be a *new coder*, or a *no coder*, or an *any coder*, although I had endeavored to persuade my personal friends who had been ranged under these several partisan banners that secession was a road that led nowhere, and disunion and destruction were no remedy for misconstruction. As in religion, where the multiplicity of creeds drives men to abjuring every faith, so the multiplicity of codes gives pretence for disregarding the principles that should underlie every formula. The false coloring which demagogues in our profession have sought to give to the *lex scripta* of our fathers has happily been removed by the authoritative liberal interpretation recently promulgated by the Association's eminent committee. Educated and honorable men have little need for written commandments as to what they shall and shall not do, and this because they are educated. Hence I would make it a part of the systematic instruction of every medical student as to the duties and obligations of physicians to each other and to the community. About those of the public to the profession we hardly need concern ourselves.

Reform is hampered by adherence to existing models. It will not do to merely enlarge faculties, multiply adjunct chairs, and establish lectureships in special practical branches. Fifty teachers



will accomplish no more than five, so long as the favors of the profession are hawked at a rate so cheap that any one may buy. The starting point must be the requirement of a thorough preliminary education, not as desirable, but as absolutely necessary. It must be proclaimed that Medicine—the Medicine which this Academy understands—cannot be studied by any one who has not received such an education; this not a rudimental knowledge of the three R's of early school days, but an intelligent comprehension of the facts of Chemistry and Physics, of Natural History and Physical Geography, of Mathematics, Language and Belles Lettres. Even then three years are not sufficient for the proper study of Medicine, and it were better to abandon the year with a preceptor and require four annual terms. Descriptive Anatomy and the *Materia Medica* are enough to occupy the most industrious student the entire first year. Histology and Practical Microscopy, Physiology in all its relations and the mechanical processes of Pharmacy, are ample work for the second year; with Hygiene, General Pathology and General Therapeutics in the third; leaving for the fourth Special Pathology, Special Therapeutics, and the Philosophy of Medicine, Medical Jurisprudence, Medical History and Literature and Medical Ethics. A fifth year ought to be devoted to clinical experience, under supervision, in dispensaries, infirmaries, or hospitals. The graduate may not have as many names of diseases on his tongue's end as he who has sat through practical lectures and attended clinics *pari passu* with his study of the bones and chemical elements, but he will be well grounded in the structure and composition of the human body, in the functions of its organs and apparatus, their textural lesions and disordered actions, the means of preventing them, and the all too scanty resources we have for restoring them when they have been turned from their normal courses.

Medicine has no need to rear its superstructure on any other foundation than the broad basis of fact. Its strength is in the truth. Its real proportions are shapely enough without the wordy padding of over-big books. Huge dispensaries, whose pages number thousands, and which scale their weight by annually increasing pounds, grow musty on the shelves, while the oldest and wisest physicians count their pharmacopœias on their finger ends. The pharmaceutic novelties in elixirs, dragées, parvules, pilules and granules, serve to advertise the enterprise of the drug confectioner, but only stock the

memory with rubbish, and are not always as harmless as the changes in sugar of milk of the now almost extinct Hahnemannist.

Medicine has been dragged down to the level of commonplace occupations only through the dissensions incited by the dogmas of theorists. Every religion has had its sectarian phases to mar its brightness: but as Medicine deals only with the real things of this world, it has a natural unity not to be looked for in that science which considers the life "above the reach and ken of mortal apprehension." There is no parallel between theological sects and medical pathies. Electropath and vitopath, hydropath and anti-path, homœopath and allopath, are all mountebank; and yet so little is the philosophic basis of Medicine comprehended by many of the profession, that I have heard more than one regular graduate, under examination, avow himself an allopath, as though it were something of which he ought to be proud; while other well-informed physicians bid for the patronage of clients who prefer pellets to potions, by affecting to be homœopaths, whose libraries give no evidence of their heresy. The professional mind which can resort to this tradesman's artifice is of the same calibre, as that of the patient who extols the doctor who practices whichever system you prefer. The Zouave Josephs and Regina dal Cins will be exalted by their deluded followers to the highest rank in Medicine so long as therapeutic methods are believed to be all there is of it. It were a hopeless task to convince the public of their error, but it behooves ourselves to be a little introspective. Have we not been so in search of therapeutic means, that systems of treatment only occupy our minds? The development of limited specialties in practice, while desirable, on account of the greater dexterity in manual procedures from frequent repetition, is not without the danger of too diffused a system of differentiation, tending to unnatural segregation. The man whose practice is limited to the rectum, unconsciously sees a stricture in every mucous fold; the gynæcologist defines woman to be a uterus with its appendages; and the oculist finds no human eye symmetrical in all its planes, and traces even Brouissais' universal gastro-entérite to remote visual disorders. The body has been parceled out until eyes, ears, nose, throat, lungs, heart, stomach, rectum, male and female genital organs, skin, spine and limbs, each has its special guardians. The teeth have surpassed them all, for they have whole colleges and faculties all their own. There are

only left the fingers and toes, and some of those who make these ornamental and useful members of the physical community their special charge, are claiming recognition as members of our fraternity.

When higher methods of education prevail, this tendency to segregation will be counteracted by more catholic views of morbid phenomena. The specialist will still stand prominent for skill in diagnosis and dexterity in mechanical procedures, but under all will be the common bond of rational Medicine. When this higher Medicine obtains, the general practitioner will pay less heed to the artificial groupings of the nosologies and look only to the grade of action exhibited by the pulse, the state of the organic fibre and the character of the secretions, whatever the name given to the disease. When all physicians stand on the plane of higher Medicine, there will be less tendency to diverge into extremist classes, exaggerated when this amounts to the creation of exclusive dogmas as articles of faith, the same in spirit, though less in degree, when, one day, all disease is attributed to humors in the blood, to be cured by venesection; on another, to malaria, and cured by quinine; on the next, to gastro-enteritis, and treated by gum water and leeches; to-day, to morbid germs, to be killed by appropriate antidotes. We are in the full tide of this new pathogeny, and perhaps, after all, it is not the living but the dead bacterium which is our enemy. Who knows but that the mysterious, deadly ptomaine has sprung from the slaughter of these tiny swarms, which outnumber the sands and are countless in the water drop, and which we seek to kill when they might best serve us, till, like the dead buzzard, the lifeless little scavengers of the earth, the air and the water add their own putrescence to that they would have removed.

*Fellows of the Academy:* I am regretfully conscious that I have but imperfectly performed the duty of presenting your work before the public. No man could wish a grander theme than this of the higher Medicine—the Medicine which is something more than a mere money-making occupation—the science of humanity, whose scope is so wide, whose aim so high, whose mission so grand, that no intellect is too bright, no industry too patient, no ambition too lofty, to be occupied with it a whole lifetime. To deter those who are unequal to this undertaking, and to encourage those who are fit to persevere in their quest of truth, are what this Academy would



do, and its Fellows appeal to their confrères in the profession, who are in sympathy with these ends, for countenance and coöperation.

Is our estimate of Medicine visionary and have we sought the impracticable? Must we silence our voices because few care to hear, and cease our efforts because the task is difficult? Must we tread the beaten track lest we offend prejudices, antagonize pecuniary interests and upset established orders? Not on this account shall we hesitate, if the truth be with us.

He who would falter and waver, let him stand by the side of his own child and watch her pure, young life fade away, let him listen to her hopeful appeal—"Papa, cannot you help me?" knowing that he cannot, he nor his professional friends, who have had every opportunity and advantage of learning all that can be learned; then, crushed to the earth by the consciousness that all his and their knowledge and skill and experience are so petty and insignificant, their resources so slender, their power so feeble, let him, if he can, ever again aid, by word or act, in sending out upon the world another man unfit to bear the responsibility of other lives as dear as this. In the presence of the beloved dead, who is not humbled by the appalling magnitude of one's own ignorance? Who that realizes this dare give the hand of professional fellowship to those he knows to be still more unworthy? The ethics of Medicine rightly denounces fraternity with charlatans and quacks. Is the dishonor less if we degrade our noble profession by admitting to its rights, privileges and distinctions those who are ignorant, illiterate and incompetent?





